

LISTING OF CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1 through 60. (Cancelled)

Claim 61. (New) A melting and/or refining unit for a conductively heatable melt, comprising:

a tank having a wall with a wall opening therethrough;

at least one electrode passing through the wall opening so as to be immersed in the conductively heatable melt; and

an apparatus for reducing the local introduction of heating power into at least one region of the wall, wherein the apparatus comprises at least one shielding device arranged in the at least one region and a shielding basket.

Claim 62. (New) The unit as claimed in claim 61, wherein the at least one region is adjacent to the at least one electrode.

Claim 63. (New) The unit as claimed in claim 61, wherein the shielding basket has a basket opening through which the at least one electrode passes, wherein the shielding basket has an axis define through the basket opening.

Claim 64. (New) The unit as claimed in claim 63, wherein the basket opening is arranged in an upper boundary of the shielding basket.

Claim 65. (New) The unit as claimed in claim 61, wherein the shielding basket is arranged coaxially with respect to the at least one electrode.

Claim 66. (New) The unit as claimed in claim 61, wherein the shielding basket is rotationally symmetrical in form.

Claim 67. (New) The unit as claimed in claim 61, wherein the shielding basket has an integrally formed upper boundary.

Claim 68. (New) The unit as claimed in claim 67, wherein the shielding basket has two rims connected by elements, wherein at least one of the two rims forms the upper boundary.

Claim 69. (New) The unit as claimed in claim 67, wherein the elements have a longitudinal axis, wherein the longitudinal axis is angled with respect to a surface of the wall that faces the conductively heatable melt.

Claim 70. (New) The unit as claimed in claim 69, wherein the angle has a value in the range from greater than 0° to less than or equal to 90°.

Claim 71. (New) The unit as claimed in claim 70, wherein the angle has a value in the range from greater than or equal to 30° to less than or equal to 60°.

Claim 72. (New) The unit as claimed in claim 61, wherein the shielding basket is secured to the at least one electrode.

Claim 73. (New) The unit as claimed in claim 61, wherein the shielding basket is secured to the wall.

Claim 74. (New) The unit as claimed in claim 61, wherein the shielding basket comprises a material selected from the group consisting of Mo, W, SnO₂, at least one precious metal, an alloy of at least one of Mo, W, SnO₂, and a precious metal, a high-temperature-resistant steel, and any combinations thereof.

Claim 75. (New) The unit as claimed in claim 61, wherein the at least one electrode has a length that is immersed in the conductively heatable melt and the shielding basket has a height such that ratio of the length to the height has a value in the range from greater than or equal to 1 to less than or equal to 20.

Claim 76. (New) The unit as claimed in claim 75, wherein the ratio has a value in the range from greater than or equal to 2 to less than or equal to 5.

Claim 77. (New) The unit as claimed in claim 61, wherein the shielding basket has a basket radius and the at least one electrode has an electrode radius such that a ratio of the basket radius to the electrode radius has a value in the range from greater than or equal to 2 to less than or equal to 15.

Claim 78. (New) The unit as claimed in claim 77, wherein the ratio has a value in the range from greater than or equal to 3 to less than or equal to 7.

Claim 79. (New) The unit as claimed in claim 61, wherein the at least one electrode comprises two electrodes spaced from one another by a distance and the shielding basket has a basket radius such that a ratio of the distance to the basket radius has a value in the range from greater than or equal to 3 to less than or equal to 500.

Claim 80. (New) The unit as claimed in claim 79, wherein the ratio has a value in the range from greater than or equal to 20 to less than or equal to 80.

Claim 81. (New) The unit as claimed in claim 79, wherein the shielding basket has an upper rim having a rim width that is greater than or equal to zero and less than or equal to the basket radius.

Claim 82. (New) The unit as claimed in claim 81, wherein the rim width is less than or equal to one third of the basket radius.

Claim 83. (New) The unit as claimed in claim 63, wherein the at least one electrode is spaced from an inner boundary of the basket opening by a gap, the gap having a width in the range from greater than or equal to 0 to less than or equal to 50 mm.

Claim 84. (New) The unit as claimed in claim 83, wherein the width is in the range from greater than or equal to 0 to less than or equal to 30 mm.

Claim 85. (New) The unit as claimed in claim 61, wherein the shielding basket has a material thickness in the range from greater than or equal to 5 mm to less than or equal to 50 mm.

Claim 86. (New) The unit as claimed in claim 61, wherein the at least one electrode is spaced from an inner boundary of the wall opening by a gap, the gap having a width in the range from greater than or equal to 1 mm to less than or equal to 30 mm.

Claim 87. (New) The unit as claimed in preceding claim 86, wherein the width is in the range from greater than or equal to 2 mm to less than or equal to 5 mm.

Claim 88. (New) The unit as claimed in claim 61, wherein the wall has a thickness at least in an area where the wall is in contact with the conductively heatable melt in the range from greater than or equal to 50 mm to less than or equal to 500 mm.

Claim 89. (New) The unit as claimed in claim 88, wherein the thickness is in the range from greater than or equal to 100 mm to less than or equal to 300 mm.

Claim 90. (New) A method for reducing the local introduction of heating power into at least one region of a wall of a melting and/or refining unit for a conductively heatable melt, comprising:

passing at least one electrode passing through an opening in the wall so as to be immersed in the conductively heatable melt; and

arranging at least one shielding device and a shielding basket in the at least one region.